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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/624,671

07/23/2003

Michiei Nakamura

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12/04/2008

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EXAMINER

CHU, HELEN OK

ART UNIT

PAPER NUMBER

1795

NOTIFICATION DATE

DELIVERY MODE

12/04/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/624,671	<b>Applicant(s)</b> NAKAMURA ET AL.	
	<b>Examiner</b> Helen O. Chu	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,8-15,22,23 and 27-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,8-15,22, 23,27-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Applicant's Arguments/Remarks were received on August 21, 2008. Claim 4 has been amended. Claims 27-33 are new
2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action.

#### ***Claim Rejections - 35 USC § 112***

3. The rejections under 35 U.S.C 112, second paragraph on claim 4 is withdrawn because Applicants amended the claim.

#### ***Claim Rejections - 35 USC § 102***

4. The rejections under 35 U.S.C 102 (b) on claims 1, 3-5, 8-11, 14, 15, 22 and 23 as anticipated by Takeuchi et al. are maintained.
5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

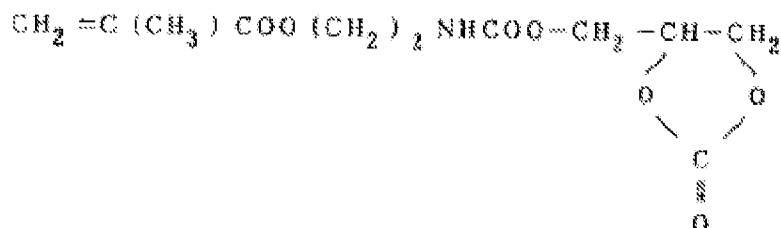
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3-5, 8-11, 14, 15, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeuchi et al. (JP 08-295713).

The Takeuchi et al. reference discloses an electrolyte film (Paragraph 42) for batteries with a molecular weight of 50,000 (Paragraph 42) and a chemical formula of:

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Wherein the polymer can be linear (un-crosslinked) and/or branched (crosslinked; Abstract), lithium perchlorate (Paragraph 47), a plasticizer of diethyl carbonate (Applicant's organic solvent).

### ***Claim Rejections - 35 USC § 102/103***

7. The rejections under 35 U.S.C 102 (b) on claims 1, 3-5, 8, 9, 14 as anticipated by or, in the alternative, under 35 U.S.C 103(A) as obvious over Yasunami et al. are maintained.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A person shall be entitled to a patent unless –

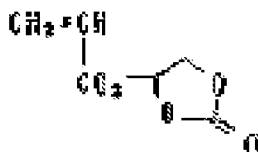
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 3-5, 8, 9 and 14, 27-33 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yasunami et al. (JP 03-177410).

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In regards to claim 1, 3-5, 8, 9, 11, 14, 15, 27-33, the Yasunami et al. reference discloses an electrolyte for batteries with polymerization with at least the chemical structure (M-44 or M-45) which is uncrosslinked:



and lithium perchlorate to form a matrix (Applicant's film). The Yasunami et al. reference does not specification state the polymer having an average molecular weight of 10,000 to 5,000,000 however, polymers are considered macromolecules with such high molecular,

Regarding claims 27-33, it is noted that claims 1, 3-5, 8, 9, 11, 14, 15, 27-33 are product-by-process claims. Absent a showing to the contrary, it is the examiner's position that the article of the applied prior art is identical to the claimed article. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). Since, the final product structure of Yasunami et al. is the same of the Applicant's, Applicant's process is not given patentable weight in this claim.

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10. Claims 27-33 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Takeuchi et al. (JP 08-295713).

The Takeuchi et al. discloses the claimed invention above and further incorporated herein. Further it is noted that claims 27-33 are product-by-process claims. Absent a showing to the contrary, it is the examiner's position that the article of the applied prior art is identical to the claimed article. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). Since, the final product structure of Takeuchi et al. is the same of the Applicant's, Applicant's process is not given patentable weight in this claim.

### ***Claim Rejections - 35 USC § 103***

11. The rejections under 35 U.S.C 103(a), as unpatentable over unpatentable over Yoshida in view of Takeuchi, on claims 1, 3-5, 8-15, 22, 23 are maintained.

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

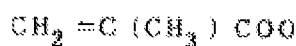
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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

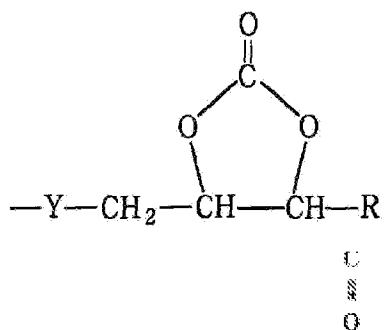
13. Claims 1, 3-5, 8-15, 22, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida (US Patent 6,949,317) in view of Takeuchi et al. (JP 08-295713).

In regards to claims 1, 3-5, 11, 12, 14, 15, the Yoshida reference teaches a polymer gel (wet) electrolyte includes an electrolyte solution (Abstract) composed of a polyurethane network (Column 9, Lines 60-65), however, does not disclose that the polyurethane compose a (co)polymer made of a component with the following formula with  $Y = CO'O$ :

The Takeuchi referen



k made with a



(co)polymer of formula (1) where R is a hydrogen atom and Y  $CO'O$ . The Takeuchi reference further discloses the polyurethane give membranes high strengths, improved room-temperature and low-temperature conductivity and processability (Abstract). Therefore, it would have been obvious to one of ordinary skill to incorporate the polyurethane with structures as disclosed by Takeuchi to the Yoshida secondary battery that requires a polyurethane for relative elongated life of the battery. Furthermore, the Yoshida et al. reference discloses polyurethanes that have a molecular weight to be 1,000-50,000. It is the Examiner's position that the amounts in

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question are so close that it is prima facie obvious that one skilled in the art would have expected them to have the same properties *Titanium Metals Corp. v. Banner*, 227 USPQ 773

In regards to claims 8, 9 and 10, the Yoshida et al. reference teaches electrolyte ammonium salts (e.g. lithium perchlorate) (Column 7, Lines 51-56) in a methyl ethyl carbonate solvent (Column 9, Line 11).

In regards to claim 13, the Yoshida et al. reference discloses the electrolyte being retained on a separator made of nonwoven fabrics (Column 30, Lines 1-12)

In regard to claims 22 and 23, the Yoshida et al. reference discloses semi-interpenetrating network structures which are a combination of crosslinked and non-crosslinked polymers.

It is noted that claims 1, 3-5, 22, 23 are product-by-process claims. Absent a showing to the contrary, it is the examiner's position that the article of the applied prior art is identical to the claimed article. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). Since, the final product structure of Yoshida et al. in view of Figovsky is the same of the Applicant's, Applicant's process is not given patentable weight in this claim.



### ***Response to Arguments***

14. Applicant's arguments filed August 21, 2008 have been fully considered but they are not persuasive.

A) Applicant argues, "*Present Claim 1 requires a polymer component (A) that includes (c0)polymer A-1 and/or A-2. A-1 and A-2 both include at least one cyclocarbonato group represented by Formula (1) of Claim 1. However, it is very important to note that both components A-1 and A-2 are obtained by reacting carbon dioxide with a monomer represented by Formula 2 or Formula 3 of Claim 1... Thus, the claimed structural requirements of (co) polymers A-1 and A-2 are shown in Formulae 2 and 3, and it is these formulae that deserve special attention because they show that group Y is directly bonded to XI or X2 which are residual groups of an unsaturated carboxylic acid. As the Examiner is aware, Y represents a COO group and, in view of Formulae 2 and 3, this COO group must be directly bonded to the residual group of an ~3- unsaturated carboxylic acid. An example of such a polymer is depicted below... and when Claim 1 is understood in this context a review of the applied references shows that Applicants' claimed basic structural units are not suggested by any of the references*" However, the Applicants claimed invention is a product the final product of the basic structure in Formula 1 of claim 1 in which the Takeuchi and the Yasunami reference both discloses. MPEP 2112.01 states " Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either

anticipation or obviousness has been established.” Please also note that the limitation for Y is a carboxyl group and no more than the carboxyl group would be examined.

### ***Conclusion***

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen O. Chu whose telephone number is (571) 272-5162. The examiner can normally be reached on Monday-Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HOC

/PATRICK RYAN/  
Supervisory Patent Examiner, Art Unit 1795